NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET
(Pursuant to NAC 445A.236)

Permittee Name: Vista Canyon Group, LLC
A corporate entity comprised of the following companies: Santa Fe Pipeline, Inc.; Unocal Corporation; Southern Pacific Transportation Company; Shell Oil Company; Berry-Hinkley Terminal, Inc.; Texaco Refining and Marketing, Inc.; Time Oil Company; and Chevron US, Inc.

Mailing Address: 1100 Town and Country
Orange, CA 92868

Permit Number: NV0020893

Discharge Location: 255 South Stanford Way
Sparks, Washoe County, Nevada 89431

Location of Treatment Facility:
Latitude: 39° 31' 48" N
Longitude: 119° 43' 59" W
Township 19N, Range 20E, Section 10

Flow: 1.6 million gallons per day 30-Day Average
2.0 million gallons per day Daily Maximum

Outfall 001: Treated groundwater discharge to the Truckee River
Outfall 002: Treated groundwater for phytoremediation irrigation, discharge to groundwater

General: Permit NV0020893 authorizes the discharge of treated groundwater to the Truckee River and to "phyto-remediation" plots (areas of specific vegetation) for irrigation. The initial permit was issued in October 1998 (1998 Permit), when subsurface remediation activities associated with Helm's Pit in Sparks, Nevada were initiated. Remedial efforts currently focus on groundwater remediation at select locations where residual areas of petroleum hydrocarbon contaminated groundwater have been identified. These areas are located near the Sparks Marina, the Sparks tank farm, and various intermediate locations on the south side of Interstate Highway 80.

Petroleum impacted water extracted from the zone of highest hydrocarbon concentration is treated using biological treatment through two (2) aerobic fluidized bed reactors (FBR/s) with carbon media for removal of organic constituents (Plant 1). Oxygen and nutrients are added to the process streams to enhance biological activity in the FBRs. Treated groundwater is then directed to an equalization/aeration basin for further aerobic treatment, as necessary. A secondary auxiliary treatment unit is also available, and is used to polish discharge in the event of Plant 1 biological treatment disruption. The auxiliary treatment unit consists of two (2) 10,000 pound granulated activated carbon

vessels plumbed in series, and is operated only as necessary to meet NPDES permit limits. Because of safety concerns surrounding the location of the infrequently used carbon vessels, the State Fire Marshall has requested the Permittee relocate the vessels to a more appropriate location. The Permittee has requested that provision be made in the permit to remove the current carbon vessels from the system, and have alternate carbon vessels on stand-by status at an off site location. The Permittee has indicated that minor operational changes can be made during the time that the stand-by carbon vessels are being deployed to ensure compliance with permit effluent limitations.

In previous permits, a high pressure oxidation (HiPOx) unit sited adjacent to Plant 1 was operated to provide groundwater treatment at the wellhead for removal of methyl tertiary butyl ether (MTBE), but this equipment is no longer in use because the MTBE in the extracted groundwater is consistently below the 40 µg/L permit limit. The flow from Plant 1 is combined with minimally impacted water extracted for contaminant plume control, and is directed through a secondary FBR containing sand media used for nitrate removal (Plant 2). Total flow through the combined system is approximately 1.6 million gallons per day (MGD).

Total Maximum Daily Loads (TMDLs) for Total Nitrogen, Total Phosphorus, and Total Dissolved Solids exist for the Truckee River. Therefore, Individual Waste Load Allocations for these constituents are assigned to this discharge, and have been in effect since permit issuance in 1998. Conditions for the application and provisional establishment of a mixing zone in the Truckee River have also been in effect since the 1998 permit issuance, though the use of a mixing zone has not been necessary.

Receiving Water Characteristics: Treated groundwater discharges from Plant 2 to the unlined earthen People's Ditch, where it flows approximately one (1) mile to its confluence with the Truckee River. Water quality standards for the Truckee River at Lockwood Bridge (Nevada Administrative Code (NAC) 445A.187) apply to this reach of the river. Beneficial uses listed for this segment of the Truckee River include: aquatic life, water contact recreation, wildlife propagation, irrigation, stock watering, municipal or domestic supply, industrial supply, and non-contact recreation. Discharge is also subject to limitation in accordance with NAC 445A.110 *"Toxic Material" defined* and with NAC 445A.144 *Standards for toxic materials applicable to designated waters*.

Outfall 002 discharges to phyto-remediation plots to irrigate specific varieties of trees that are cultivated to uptake subsurface contaminants. This discharge is regulated as a discharge to groundwater. Standards listed for the discharge to the Truckee River are adequately protective of groundwater quality and therefore, the discharge limitations assigned for Outfall 001 are also applied to Outfall 002. Outfall 002 is used only on a limited basis.

Discharge Characteristics: The discharge is recovered groundwater that is pumped and treated to remove fuel and solvent products targeted under the "Sparks Solvent (Tank Farm)/Fuel Site Remediation" project. Treatment of the groundwater with the current system began in 1995. Contaminant constituents include common fuel hydrocarbons such as benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tertbutyl ether (MTBE), as well as several halogenated solvents, primarily trichloroethylene (TCE) and tetrachloroethylene (PCE). The groundwater treatment system is designed to achieve the level of treatment necessary to satisfy the discharge limitations established in the 1998 Permit.

From October 2003 through June 2008, the following discharge characteristics were reported:

Parameter	Permit Limit	Average	Maximum	Minimum	# of Permit Exceedances
Flow, MGD 30-Day Average	1.6				
Daily Maximum	2.0	1.209	1.31	0.85	0
pH (St. Units)	7.1-8.5	7.50	8.49	7.3	0
Total Phosphorus, mg/L	M&R	0.469	0.98	0.12	NA
IWLA, lbs/day, 30-Day Avg	4.75	4.733	10.3	1.14	28
Or ∑WLA, lbs/day, 30-Day Avg	138.75	80.3	122.1	54.1	0
Total Nitrogen, mg/L	M&R	0.921	4.4	<0.25	NA
IWLA, May-Oct, lbs/day, 30-Day Avg	16.7	8.62	47.7	2.38	3
Or ∑WLA, lbs/day, Annual Avg	550	NA	NA	NA	NA
Nov-Apr, Pounds/day	M&R	11.075	44.11	2.29	NA
TDS, mg/L	M&R	461.5	520	430	NA
IWLA, lbs/day, Annual Avg (2004-2007)	9370	4558.6	4821	4109	0
Or ∑WLA, lbs/day, Annual Avg	149,288	NA	NA	NA	NA
Nitrate, mg/L	2.0	0.418	4.3	<0.05	3
Total Ammonia [1], mg/L *Calculated Permit Limits Based on pH and Temperature*	Varies	0.26	6.7	<0.10	0
Temperature, °C	M&R	20.3	24	17	NA
Dissolved Oxygen, mg/L Nov-Mar	≥6.0	7.77	9.3	6.1	0
Apr-Oct	≥5.0	7.82	8.6	5.2	0
Hardness , mg/L as CaCO3	M&R	339.1	420	290	NA
Dissolved Lead, µg/L *Calculated Permit Limits Based on Hardness as CaCO3.*	Varies	<5	<5	<5	0
TPH, mg/L	1.0	0.04	<0.5	<0.05	0
Benzene, µg/L	5.0	<0.5	<0.5	<0.5	0
Toluene, µg/L	100	<0.5	<0.5	<0.5	0
Ethylbenzene, µg/L	100	<0.5	<0.5	<0.5	0
Total Xylenes, µg/L	200	<0.5	<0.5	<0.5	0
Methyl Tertiary Butyl Ether, µg/L	40	9.96	29	3	0
1.2-Dichloroethane (DCA), µg/L	5	<1.0	<1.0	<1.0	0
Dichloromethane (methylene chloride), µg/L	M&R	<2.0	<2.0	<2.0	0
Tetrachloroethylene (PCE), µg/L	5	3.99	5.6	2.2	2
Trichloroethylene (TCE), µg/L	5	0.59	1.1	<1.0	0
Total Trihalomethanes, µg/L	100	<1.0	<1.0	<1.0	0
Chloroethylene (vinyl chloride), µg/L	2	<1.0	<1.0	<1.0	0
Whole Effluent Toxicity, %					
Chronic Survival Rate	70	99.4	100	95	0
Acute Survival Rate	90	98.3	100	90	0

All monitored organic compounds in the discharge were below permit limits, with the exception of Tetrachloroethylene (PCE). PCE concentrations exceeded the discharge limit of 5.0 µg/L twice in the period from October 2003 through June 2008, once in March 2007 (5.3 µg/L), and once in August 2007 (5.6 µg/L). The March exceedance was caused by a plugged aerator in the treatment basin, causing the air stripping efficiency to be diminished. The August 2007 exceedance was caused by higher than usual pumping from well M3, which is historically high in PCE. The well pump had recently been replaced and was pumping more efficiently than the old pump. Upon discovery of the exceedances, the causes were identified and corrected, and additional sampling confirmed that the discharge was within permit

limits for PCE. During the March and August 2007 exceedance events, the discharge flows were reported as 1.13 and 1.18 MGD, or 1.75 and 1.82 cubic feet/sec (cfs), respectively. Average flows in the Truckee River reported by the USGS at the Vista Gage during March 2007 and August 2007 were 665.4 and 300.9 cfs. Since the discharges from the subject facility accounted for only 0.26% of the total March 2007 Truckee River flow and 0.60% of the total August 2007 Truckee River flow, it is unlikely there would be any measurable effect of these non-compliant discharges on the Truckee River quality.

The area from which the hydrocarbon impacted water groundwater is extracted has shown high levels of nitrogen compounds and Total Phosphorus unrelated to the original petroleum product releases addressed in the remedial action. Treatment is required prior to discharge in order to comply with the Total Maximum Daily Load (TMDL) assigned to the Truckee River and the apportioned Individual Waste Load Allocation (IWLA) for Total Nitrogen and Total Phosphorus, which were allocated in the 1998 Permit and remain in force. During the period from October 3003 through June 2008, the Total Phosphorus 30-Day Average IWLA for May-October (16.7 #/day) was exceeded 28 times. However, the 138.75 #/day Total Maximum Daily Load for all dischargers (Truckee Meadows Water Reclamation Facility, Sparks Marina Park, and Vista Canyon Group) was not cumulatively exceeded, so no violation of the TMDL limit occurred. Total Nitrogen and Nitrate limits exceedances were reported as follows:

Constituent	Date of Exceedance	Reported Value	Explanation for Exceedance	Mean Monthly Truckee River Steam Flow (cfs)	Discharge Flow (MGD, cfs)	% of Stream Flow
Total Nitrogen	11/2003	47.7	Malfunction of methanol feed system to Plant 2 for denitrification of discharge prior to discharge.	324.0	1.30, 2.01	0.62
	7/2005	19.3	Insufficient methanol feed to Plant 2 for denitrification.	428.4	1.22, 1.89	0.44
	8/2005	24.4	Insufficient methanol feed to Plant 2 for denitrification.	208.2	1.27, 1.97	0.95
Nitrate	11/2003	4.3	Malfunction of methanol feed system to Plant 2 for denitrification of discharge prior to discharge.	324.0	1.30, 2.01	0.62
	1/2006	3.0	Loss of sand media in Plant 2 Fluidized Bed Reactors.	1442.0	1.21, 1.87	0.13
	3/2006	2.3	Loss of sand media in Plant 2 Fluidized Bed Reactors.	1308.0	1.23, 1.90	0.15

All insufficiencies in the treatment system were addressed upon discovery, and confirmatory samples taken after repairs demonstrated that treated discharge returned to within permit limits. As shown in the table above, the discharges were a very small percentage of the total Truckee River flow, and the exceedances are unlikely to have caused any measurable effect on Truckee River quality, particularly when evaluated on a total load basis for the receiving water body.

Proposed Limitations: The discharge of treated groundwater from Outfall 001 and Outfall 002 shall be limited and monitored as follows:

Treated Groundwater Discharge Limitations
During the period beginning on the effective date of this permit and lasting until the permit expires, the

Permittee is authorized to discharge from:

Outfall 001: From the Sparks Rail Yard/Terminal Remediation Facility to the People's Ditch at the east terminus of Nugget Avenue, converging with the Truckee River at a location immediately northwest of the Truckee Meadows Wastewater Reclamation Facility; and

Outfall 002: Discharge to the phytoremediation plots.

Discharge samples and/or measurements taken in compliance with the monitoring requirements specified below shall be collected at:

EFF: At the discharge of Plant 2, prior to conveyance to the People's Ditch and/or the phytoremediation plot(s).

Table 1: Treated Groundwater Discharge Limitations

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	**Daily Maximum**	**Measurement Frequency**	**Sample Type**
Discharge Flow (MGD)	1.6	2.0	Continuous	Flow Meter
TMWRF Flow (MGD)	Report Only	-----	Monthly	Flow Meter
pH (SU)	-----	7.1-8.5	Monthly	Discrete
Total Phosphorus as P (mg/L)	Monitor & Report		Monthly	Discrete
Total Phosphorus as P (lbs/day)	Monitor & Report		Monthly	Calculation
Total Phosphorus as P (lbs/day – 30-Day average)[1]	**Either** 1) 4.75 lbs/day **or** 2) the **ΣWLA** is **≤**138.75 lb/day		Monthly	Calculation
Total Nitrogen as N (mg/L)	Monitor & Report		Monthly	Discrete
Total Nitrogen as N (lbs/day)[1]	May – October: 16.7 (30-Day Average) November – April: Monitor & Report		Monthly	Calculation
Total Nitrogen as N (lbs/day – annual average)	**Either:** 1) 16.7 lbs/day **or** 2) the **ΣWLA** ≤ 550 lbs/day		Annually[2]	Calculation based on 30-day averages
Total Dissolved Solids (mg/L)	Monitor & Report		Monthly	Discrete
Total Dissolved Solids (lbs/day)[1]	Monitor & Report		Monthly	Calculation
Total Dissolved Solids (lbs/day – annual average, calculated by TMWRF as an annual average)	**Either** 1) 9,730 lbs/day **calculated annually OR** 2) the **ΣWLA** is either: a) ≤149,288 lbs/day **or** b) ≤ the **ΣWLA** (lbs/day)		Annually[2]	Calculation based on 30-day averages
Nitrate as N (mg/L)	-----	2.0	Monthly	Discrete
Total Ammonia as N (mg/L)	Derived as a function of each sampling event as required in footnote 3A, below.	Derived as a function of each sampling event as required in footnote 3B, below.	Monthly	Discrete
Temperature (°C)	Monitor & Report		Monthly	Discrete
Dissolved Oxygen (mg/L)	November – March: ≥6.0 April – October: ≥5.0		Monthly	Discrete
Hardness (mg/L)	Monitor & Report		Monthly	Discrete

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Total Recoverable Lead (µg/L)[4]	$\exp^{1.273\ln(H)-4.705}$	$\exp^{1.273\ln(H)-1.460}$	Monthly	Discrete
Total Petroleum Hydrocarbons (mg/L)	-----	1	Monthly	Discrete
Benzene (µg/L)	-----	5	Monthly	Discrete
Toluene (µg/L)	-----	100	Monthly	Discrete
Ethylbenzene (µg/L)	-----	100	Monthly	Discrete
Total Xylene (µg/L)	-----	200	Monthly	Discrete
Methyl tertiary butyl ether (µg/L)	-----	40	Monthly	Discrete
1,2-Dichloroethane (DCA, µg/L)	-----	5	Monthly	Discrete
Dichloromethane (methylene chloride, µg/L)		Monitor & Report	Monthly	Discrete
Tetrachloroethylene (PCE, µg/L)	-----	5	Monthly	Discrete
Trichloroethylene (TCE, µg/L)	-----	5	Monthly	Discrete
Total Trihalomethanes (µg/L)	-----	100	Monthly	Discrete
Chloroethylene (Vinyl Chloride, µg/L)	-----	2	Monthly	Discrete
Whole Effluent Toxicity[5]	Monitor & Report[5]		Semi-Annually[5]	Composite
Volatile Organics[6]	Monitor & Report		24-48 hours after pumping from new wells	Discrete

[1]: Reference Permit Part I.A.2 for Waste Load Allocation details.

[2]: Annual calculations or data to be submitted with the 4th Quarter Discharge Monitoring Report

[3]: For each sample event, formula terms contained in A and B below shall have the following meaning: ***pH* and *T* are *field measurements of facility discharge*** taken at the same time and location as the water sample destined for the laboratory analysis of ammonia.

A. The chronic criteria of water quality with regard to the concentration of total ammonia are subject to the following:

(a) The facility discharge Monthly chronic concentration of total ammonia, in milligrams of nitrogen per liter, shall be calculated by the NAC 445A.118 Table 2 chronic concentration formula for the 30-Day average for each discharge sample event as follows:

$$\left[\frac{0.0577}{1+10^{7.688-pH}}\right]+\left[\frac{2.487}{1+10^{pH-7.688}}\right] x\ MIN\ [2.85,\ 1.45\ x\ 10^{0.028\,x\,(25-T)}]$$

where : MIN = lesser of comma separated values; T = temp. Celius deg.; x = multiply

(b) The concentration of total ammonia, in milligrams of nitrogen per liter, expressed as a 30-day average must not exceed the applicable chronic criterion as calculated more than once every 3 years on average, and the highest 4-day average within the 30-day period must not exceed 2.5 times the applicable chronic criterion.

Measurement frequency of once per 30-day (Monthly) is an acceptable indicator for evaluating total ammonia chronic criterion and may be used in reporting to demonstrate compliance of discharge event calculated limit. However, if a sample analysis exceeds the allowed calculated chronic limit in part (a), the **measurement frequency** must be increased to a minimum of 4 consecutive days within the 30-day period so that chronic criterion part (b) can be applied for determining permit compliance.

B. The acute criteria for water quality with regard to the concentration of total ammonia are subject to the following:

(a) The facility discharge Daily Maximum acute concentration of total ammonia, in milligrams of nitrogen per liter, for **cold water fisheries** shall be calculated by the NAC 445A.118 Table 1 acute concentration formula for the 1-hour average for each sample event as follows:

$$\left[\frac{0.275}{1+10^{7.204-pH}}\right]+\left[\frac{39.0}{1+10^{pH-7.204}}\right]$$

(b) The concentration of total ammonia, in milligrams of nitrogen per liter, must not exceed the applicable acute criterion as calculated more than once every 3 years on average.

Measurement frequency for evaluating total ammonia acute criterion as daily maximum shall utilize the same **measurement frequency** required for that of evaluating the chronic criteria of water quality defined in A above. The total ammonia concentration determined by laboratory analysis for each sample event shall be compared to the same event's calculated acute criterion limit.

[4]: Monitoring for this parameter may be reduced as a minor modification or removed based on a consistent demonstration for at least 12 consecutive months that the discharge does not contain lead in excess of aquatic life standards.

[5]: In accordance with the conditions prescribed in Part I.A.3. Tests to be conducted in April and October to coincide with periods generally accepted as representative of high and low flow in the Truckee River.

[6]: Aromatic and halogenated volatile organics list included in Attachment A. Analyses shall be conducted using EPA Method 8021/601/602 or equivalent. "New wells" are those wells installed after the issue date of this permit. Any time a new well is incorporated into the groundwater recovery program, an discharge sample must be collected and profiled for volatile organics. Analytical results must be included in the subsequent monitoring report submitted under the conditions of this permit.

M&R: Monitor and Report
MGD: Million gallons per day
SU: Standard units
mg/L: Milligrams per liter
lbs/day: Pounds per day
IWLA: Individual Waste Load Allocation
ΣWLA: Cumulative Waste Load Allocation
°C: Degrees Celsius
µg/L: Micrograms per liter

The Individual and Cumulative Waste Load Allocations for the Truckee River are given below:

CONSTITUENT	INDIVIDUAL WASTE LOAD ALLOCATIONS			ΣWLA	TMDL AT LOCKWOOD
	TMWRF	Vista Canyon Group	Sparks Marina Park		
Total Nitrogen –N[1](lb/day)	500	16.7	33.3	550	1,000
Total Phosphorus –P (lb/day)	134	4.75	0	138.75	214
Total Dissolved Solids[2] (lb/day)	120,168[3]	9,730	19,390	149,288	900,528

Notes:

[1]: 30-day Average Load May 1 through October 31 and Annual Average Load November 1 through April 30 to be reported in the 4th quarter DMR.

[2]: Annual Average Load. The annual average load will be calculated as the average of the 12 monthly average loads of a calendar year. If the average weekly flow in the Truckee River at the USGS gauging station at Farad, 10346000, is less than 150 cfs, the Permittee may substitute that month's load with a load based on the following calculation in determining the annual average:

Monthly Load = (monthly average discharge flow, MGD) X ((360 mg/L, or the actual TDS concentration, mg/L, if lower) X (8.345).

[3]: 30-day average load.

-N:	As nitrogen.	mg/L:	Milligrams per liter.
lb/day:	Pounds per day.	cfs:	Cubic feet per second.
-P:	As phosphorus.	TDS:	Total dissolved solids.

Rationale for Discharge Limitations:

Flow
Discharge flow is limited to the design discharge of the groundwater treatment system, which is 1.6 mgd on a 30-day average and 2.0 mgd as a daily maximum. Discharge flow from TMWRF is required to determine the applicable cumulative waste load allocation for TDS.

pH
This discharge limitation is required to confirm compliance with the pH water quality standard and for use in determining compliance with the discharge limitation for total ammonia.

Total Phosphorus as P
The IWLA is 4.75 pounds per day (lbs/day) 30-Day Average, or a sum of IWLA for the three dischargers of 138.75 lb/day. Total phosphorus has an assigned IWLA and/or ΣWLA to ensure maintenance of the Total Maximum Daily Load (TMDL) assigned for the Truckee River. Compliance with the preeminent mass loading criteria satisfies compliance with the related water quality standard for Total Phosphates listed under NAC 445A.187.

Total Nitrogen as N
The IWLA is 16.7 lbs/day 30-Day Average, or a sum of IWLA for the three dischargers of 550 lb/day. Total nitrogen has an assigned IWLA and/or ΣWLA to ensure maintenance of the Total Maximum Daily Load (TMDL) assigned for the Truckee River.

Total Dissolved Solids (TDS)
The IWLA is 9,730 lbs/day Annual Average; or a sum of IWLA for the three dischargers of 149,288 lbs/day. TDS has an assigned IWLA and/or ΣWLA to ensure maintenance of the Total Maximum Daily Load (TMDL) assigned for the Truckee River. Compliance with the mass loading criteria satisfies compliance with the TDS water quality standard listed under NAC 445A.187.

Nitrate as N
This monitoring parameter is preserved in the proposed renewal and is limited in accordance with the beneficial use standard listed under NAC 445A.187.

Total Ammonia as N
The Total Ammonia as N water quality standard equations found in NAC 445A.118 apply. Using the range of minimum and maximum allowable pH (7.1-8.5) and an estimated temperature range from 14 to 24 degrees Celsius (°C), the 30-day average discharge limitation is estimated to be between 0.977 and 5.84 mg/L, and the daily maximum discharge limitation is estimated to be between 2.14 and 21.94 mg/L. The proposed permit renewal reflects the single Total Ammonia water quality standard listed under NAC 445A.118 and referenced under NAC 445A.187.

Temperature
This reporting requirement was maintained from the previous permit for calculation of the Total Ammonia discharge limit. The Permittee is not required to meet Truckee River temperature standards

listed in NAC445A.187 at point of discharge (Outfall 001) because discharge is to the People's Ditch, which flows approximately one-mile to the confluence with the Truckee River. The time and distance for discharge flow within the People's Ditch results in ambient equilibration of the discharge to temperatures similar to that of the Truckee River, and consequently, discharge temperature does not present a reasonable potential to cause or contribute to a violation of water quality standards.

Dissolved Oxygen
The dissolved oxygen discharge limitation is in accordance with the beneficial uses water quality standard listed under NAC 445A.187.

Hardness
This monitoring parameter is maintained from the previous permit for use in the determination of aquatic life standards as applicable to dissolved lead limits specified in NAC 445A.144.

Dissolved Lead
This monitoring parameter was included in the 1998 Permit because of the possibility that leaded fuels (tetraethyl lead) may have been one of the types of fuels that impacted groundwater in the vicinity of the remediation project. Other than a few inconsistent analytical data points, dissolved lead has not generally been identified above method detection limits in treated discharge.

Lead was not a constituent identified as 'believed present' in the initial permit application in 1998, nor is it likely to be observed due to the composition of fuel hydrocarbons that are the current subject of the remediation. However, continued analysis for this constituent is required to demonstrate that the aquatic life standard for dissolved lead is met based on a function of the hardness concentration in the discharge. Based on the daily maximum limitations calculated using a conservative hardness value of 290 mg/L (lowest hardness value reported since October 2003), the lowest permit limits for the chronic and acute levels of dissolved lead would be 12.33 and 316.64 µg/L. During the permit from October 2003 through June 2008, dissolved lead in the discharge has not been above the reporting limit of 5 µg/L. NDEP reserves the right to modify the frequency of monitoring under the auspices of a minor modification, or to remove the discharge limitation entirely based on 'new information' that would or could justify an exception to antibacksliding.

Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX), and Total Petroleum Hydrocarbons
Discharge limitations for these constituents have been preserved because it has been demonstrated that these discharge parameters are technologically achievable and because the project is a remediation of petroleum compounds, which includes these sentinel/indicator compounds. Discharge limitations are required to ensure proper treatment prior to discharge.

Methyl tertiary butyl ether (MTBE)
Neither NAC 445A.187 nor NAC 445A.144 listing Truckee River water quality standards and standards for toxic materials, respectively, include a standard for MTBE. Current guidance documentation suggests action levels at 20 or 200 µg/L, depending on exposure and potential receptors, but these concentrations are not codified standards. EPA Taste and Odor thresholds cite a quantitative range of 20 to 40 µg/L, and numerous studies conducted since approximately 1990 indicate that the 40 µg/L limitation represents a relatively conservative value with respect to both human and ecological toxicity. Documentation on file also indicates that this value is comparable to the regulations and guidelines adopted for MTBE in other western states.

The discharge limitation for MTBE established in the 1998 Permit was based on guidance from the EPA Region IX. The discharge limitation of 40 µg/L, agreed to at that time, falls within the range of concentration that EPA considers will "protect consumer acceptance of the water resource" and "provide a large margin of exposure (safety) from toxic effects." In conjunction with this empirical

limitation, Whole Effluent Toxicity (WET) testing was required to confirm the absence of quantifiable toxicity characteristics in the discharge. Results of WET tests compiled throughout the five (5)-year permit term clearly indicates that cumulative discharge effects, including MTBE, are not toxic to indicator aquatic species. Given the cumulative data on file, it can be concluded that the 40 µg/L MTBE discharge limitation has been and remains an effective limitation for the protection of existing water quality and beneficial uses for the Truckee River.

1,2-Dichloroethane (1,2-DCA), Dichloromethane (methylene chloride), Tetrachloroethylene (PCE), Trichloroethylene (TCE), Trihalomethanes, and Chloroethylene (vinyl chloride)
Discharge limitations for these constituents remain preserved in the proposed permit renewal and are based on Municipal or Domestic Supply standards listed in NAC 445A.144.

Whole Effluent Toxicity Testing
The requirement to routinely conduct WET testing has been preserved under the authority of NAC 445A.121(5).

Volatile Organics
This monitoring requirement is included to ensure that the installation and use of new wells does not result in the inadvertent discharge of unidentified, but commonly encountered, fuel-related pollutants that could pose an environmental threat to the Truckee River. Profiling the discharge for Volatile Organics only when new sources of pumped groundwater are introduced will substantiate the absence of unexpected pollutants, while minimizing the routine analytical burden.

Supplemental Permit Conditions: The Permittee shall notify the Administrator of the Division and the Pyramid Lake Paiute Tribe within twenty-four hours of any upset, bypass, or any other discharge not expressly authorized under the terms of this permit.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the permit upon issuance, and the following schedule of compliance, after approval by the Administrator, including in said implementation and compliance, any additions or modifications the Administrator may make in approving the schedule of compliance.

a. The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.

b. **At least two weeks prior to operation of any new extraction well**, the Permittee shall notify the Bureau of Water Pollution Control of their intent to operate.

c. **Within 30 days of commencement of operation of any new well**, the Permittee shall submit to the Bureau of Water Pollution control laboratory results of Volatile Organics Compound analysis for the well, as required in Part I.A.1.

Proposed Determination: The Division has made the tentative determination to issue (renew) the proposed permit, under the provisions prescribed, for a 5-year period. Under NAC 445A.232, this permit falls under the category of *Discharge from Remediation, Dewatering, other than a discharge to ground water from the dewatering of a mine, or from a Power Plant, a Manufacturing or Food Processing Facility or Any Other Commercial or Industrial Facility 2,000,000 gallons or more but less than 5,000,000 gallons of process water daily*.

Procedures for Public Comment: Notice of the Division's intent to issue a permit authorizing the facility to discharge to waters of the State of Nevada, subject to the conditions contained within the permit, is being sent to the **Reno Gazette Journal** for publication. Notice is also mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the date of the public notice, and must be postmarked, faxed, or e-mailed by 5:00 p.m. on **January 15, 2009**. The comment period can be extended at the discretion of the Administrator. A public hearing on the proposed determination can be requested by the Applicant, any affected state, any affected interstate agency, the Regional Administrator, or any interested agency, person, or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reason(s) why a hearing is warranted.

Any public hearing held by the Administrator will be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings will be conducted in accordance with NAC 445A.238. The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Prepared by: Janine O. Hartley
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